AMENDMENTS

In the Claims:

Please cancel Claims 88, 91, and 112-123 without prejudice or disclaimer, and amend Claims 87 and 89.

The currently pending and amended claims are below. Please amend the claims following wherein amendment is indicated in parenthesis, wherein the deleted matter is shown by strikethrough, and wherein the added matter is shown by underlining

Claims 1-86 (Canceled)

87. (Currently amended) A method of producing an isolated, differentiated, mononuclear cell from human umbilical cord blood, comprising:

(a) obtaining a cord blood fraction comprising mononuclear cells from said umbilical cord blood, wherein the mononuclear cells comprise progenitor cells; and

(b) growing said cord blood fraction from step (a) in a culture medium containing an effective amount of a differentiation agent for a period sufficient to differentiate the progenitor cell to a cell of interest, wherein the differentiation agent is selected from the group consisting of retinoic acid, BDNF, NGF, EGF and bFGF,

wherein the cell of interest exhibits both an increase in the expression of genes associated with neurogenesis and a decrease in the expression of genes associated with hematopoiesis in comparison to an umbilical cord blood ~~progenitor~~ cell that has not been cultured in the presence of the differentiation agent.

88. (Canceled)

89. (Currently amended) The method of Claim 87 ~~88~~, wherein said differentiation agent comprises retinoic acid and NGF.

90. (Previously presented) The method of Claim 89, wherein retinoic acid is selected from the group consisting of 9-cis retinoic acid, all transretinoic acid, and a mixture thereof.

91. (Canceled)

92. (Canceled)

93. (Previously presented) The method of Claim 87, wherein the progenitor cells are isolated from the mononuclear cells prior to step (b).

94. (Previously presented) The method of Claim 93, wherein the progenitor cells are isolated from the mononuclear cells using a magnetic cell separator to separate out cells expressing a particular CD marker.

95. (Previously presented) The method of Claim 94, wherein the progenitor cells do not express CD34.

96. (Previously presented) The method of Claim 87, wherein the mononuclear cells of step (a) are first subjected to an amount of an anti-proliferative agent effective to eliminate essentially all proliferating cells from the mononuclear cells, and subsequently exposed to a mitogen prior to step (b).

97. (Previously presented) The method of Claim 96, wherein the anti-proliferative agent is Ara-C.

98. (Previously presented) The method of Claim 96, wherein the mitogen is selected from the group consisting of epidermal growth factor and pokeweed mitogen.

Claims 99-123 (Canceled)